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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,774	04/09/2004	Isao Matsuda	Q80987	8807
23373 7590 06/14/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER WHITE, EVERETT NMN	
			ART UNIT 1623	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/820,774	Applicant(s) MATSUDA ET AL.	
	Examiner Everett White	Art Unit 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2006 and 15 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5 and 8-13 is/are pending in the application.
- 4a) Of the above claim(s) 9-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The response to the restriction requirement filed March 15, 2007 and amendment filed November 22, 2006 have been received, entered and carefully considered. The restriction requirement and amendment affects the instant application accordingly:

- (A) Claims 2 and 6-7 have been canceled;
- (B) Claims 1, 3-5, 8-10, 12 and 13 have been amended;
- (C) Comments regarding Office Action have been provided drawn to:
 - (I) claim objection for being in improper multiple dependent form, which has been withdrawn;
 - (II) 102(b) rejection, which has been withdrawn;
 - (III) 103(a) rejection, which has been maintained for the reasons of record.

2. Claims 1, 3-5 and 8-13 are pending in the case.

3. Applicant's election without traverse of Group I, Claims 1, 3-5 and 8 in the reply filed on March 15, 2007 is acknowledged.

4. Claims 9-13 are withdrawn from consideration as being directed to non-elected inventions.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 1, 3-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carrington et al (US Patent No. 4,247,568).

Applicants claim a method for the preparation of a glucose polymer having an ion-exchanging ability comprising the steps of drying a mixed aqueous solution containing a raw glucose polymer and a polyvalent carboxylic acid to thus form a uniform powdery mixture and then subjecting the powdery mixture to a heat treatment, wherein the raw polymer and the polyvalent carboxylic acid are first dissolved in water to form an aqueous solution, wherein the raw glucose polymer is at least one member selected from the group consisting of oxidized starch, starch hydrolyzates, hydrogenated starch hydrolyzates and digestion-resistant starch hydrolyzates and the average degree of polymerization thereof ranges from 4 to 123, and wherein the temperature of the powder upon the heat-treatment ranges from 100 to 125°C.

The Carrington et al patent discloses a process in Example 6 that involved raw maize starch being dispersed in water with efficient agitation. To this dispersion was added citric acid (a polyvalent carboxylic acid) and agitation was continued to ensure thorough dissolution and distribution of the citric acid. The Carrington et al patent discloses that this slurry was then dried to 1% water content in a hot air circulation oven at 70° for 6 hours. Carrington et al discloses that the dried product was then milled to particle size of less than 250 microns diameter and heated to 180° for 3 hours. This description of the process in Example 6 of the Carrington et al patent embraces the

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steps of the method disclosed in the instant claims. See column 4, 3rd paragraph wherein the Carrington et al patent shows that the starches used in the process thereof may be starch hydrolysate which are similar to the starch hydrolyzates disclosed in instant Claims 2 and 3. See column 4, line 21, wherein after preparation, the dry mixture of starch hydrolysate and di- or tricarboxylic acid is heated at 140°C to 220°C, wherein this temperature covers the temperature range disclosed in instant Claim 1. The ion-exchange ability index disclosed in instant Claim 5 is noted, but appears to be an inherent property of the starch hydrolyzates disclosed in the Carrington et al patent. Examples 2-4 in column 6 of the Carrington et al patent discloses a table showing the starch: citric acid proportion by weight, which falls within the range of the mixing molar ratio of the glucose polymer to polyvalent carboxylic acid range from 1.5:1 to 9:1.

The instantly claimed method for the preparation of glucose polymer differ from the process disclosed in Carrington et al patent by claiming the raw glucose polymer thereof as having a degree of polymerization ranging from 4 to 123.

However, Example 7 of the Carrington et al patent discloses a process wherein the starch product was found to have a dextrose equivalent of 19.4, which suggests a starch product having a degree of polymerization within the ranges disclosed in instant Claims 1 and 3. Further more, the degree of polymerization ranges disclosed in instant Claims 1 and 3 for raw glucose polymers are well known in the art.

One having ordinary skill in the art would have been motivated to employ the process of the prior art with the expectation of obtaining the desired product because the skilled artisan would have expected the analogous starting materials to react similarly.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of Applicants invention having the Carrington et al patent before him to carry out the instantly claimed method for the preparation of a glucose polymer having an ion exchanging ability in view of their closely related structures of the starting material used to carry out the processes and the resulting expectation of similar dietetic properties for low calorie food.

Response to Arguments

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7. Applicant's arguments filed November 22, 2006 have been fully considered but they are not persuasive. Applicants point out and argue the differences in the temperature range of 100 to 125°C in the instant claims and the 140 to 220°C disclosed in the Carrington et al patent. However, it is noted that the instant specification teaches the temperature range being as high as 160°C, which covers part of the temperature range disclosed in the Carrington et al patent. Applicants are reminded that if criticality is asserted for proportions or ranges, the specification must not disclose them as merely preferred. *Hays v. Reynolds, Comr. Pats.* (DCDC 1965) 242 FSupp 206, 145 USPQ 665; *In re Bourdon* (CCPA 1957) 240 F2d 358, 112 USPQ 323.

Applicants also argue against the rejection on the grounds of the products being water-insoluble in the Carrington et al patent wherein the instant claims disclose water-soluble products. This argument is not persuasive since the Carrington et al patent does disclose products that may be soluble in water. See the sentence bridging columns 4 and 5, which discussed further treatments of the products thereof, which involve dissolving the product, if soluble, in water.

Applicants further argue that the Carrington et al patent does not disclose a step that first dissolved the glucose polymer and polyvalent carboxylic acid in water to form an aqueous solution. This argument is not persuasive since this step is a preferred step of the method disclosed in the Carrington et al patent. See column 4, lines 29-33 of the Carrington et al patent.

In view of the rejection of the claims and argument presented, the rejection of Claims 1, 3-5 and 8 under 35 U.S.C. 103(a) as being unpatentable over the Carrington et al patent is maintained for the reasons of record.

Information Disclosure Statement

8. The information disclosure statement filed July 27, 2004 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information

referred to therein has not been considered. Applicants indicated that a concise explanation of the relevance of AT 342079 was provided in the form of an English-language European Search Report, including at least that portion of the search report indicating the degree of relevance found by the EPO. However, no English language European Search Report documenting the AT 342079 reference was noted or the report was not available to the Examiner at the time of this action.

Reply to Final Must Include Cancellation of Non-elected Claims

9. This application contains claims 9-13 drawn to an invention nonelected without traverse in the reply filed on March 15, 2007. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Summary

10. Claims 1, 3-5 and 8 are rejected; Claims 9-13 are withdrawn from consideration.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Examiner's Telephone Number, Fax Number, and Other Information


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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is 571-272-0660. The examiner can normally be reached on 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-066127. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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